



**National Aeronautics and Space Administration
Fleet Alternative Fuel Vehicle Program Report for Fiscal Year 2007
February 15, 2008**

This National Aeronautics and Space Administration (NASA) Fleet Alternative Fuel Vehicle (AFV) Report for Fiscal Year (FY) 2007 presents the Agency's data on the number of alternative AFVs acquired in FY 2007, and its planned and projected acquisitions for FY 2008 and FY 2009. This report has been developed in accordance with the Energy Policy Act of 1992 (EPAct) (42 U.S.C. 13211-13219) as amended by the Energy Conservation Reauthorization Act of 1998 (Public Law 105-388) (ECRA), Energy Policy Act of 2005 (EPAct), and Executive Order (E.O.) 13423 (signed by the President in January 2007). NASA exceeded the 75 percent AFV-acquisition requirement for 176 vehicles by acquiring 390 total credits in FY 2007. Attachment A provides detailed information on the number and types of light-duty vehicles leased or purchased by NASA in FY 2007.

Legislative Requirements

EPAct requires that 75 percent of all covered light-duty vehicles acquired for Federal fleets in FY 1999 and beyond must be AFVs (where the fleets have 20 or more vehicles, are capable of being centrally fueled, and are operated in a metropolitan statistical area with a population of more than 250,000 based on the 1980 census). Certain emergency, law enforcement, and national defense vehicles are exempt from this requirement. In January 2007, President Bush signed Executive Order (E.O.) 13423: Strengthening Federal Environmental, Energy, and Transportation Management a mandate that requires agencies with 20 or more vehicles in the United States to decrease petroleum consumption by 2% per year relative to their fiscal year (FY) 2005 baseline through FY 2015. E.O. 13423 also requires agencies to increase alternative fuel use by 10% per year relative to the previous year. E.O. 13423 revokes E.O. 13149, which was signed in April 2000.

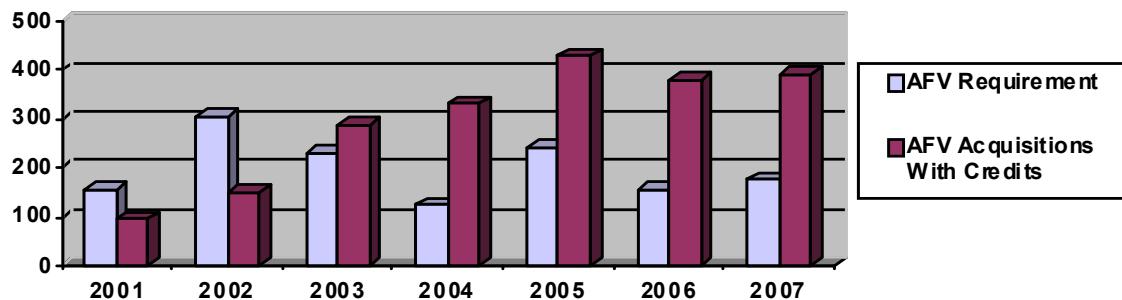
NASA Approach to Compliance with EPAct and E.O. 13423

To achieve compliance with the legislative mandates of EPAct and E.O. 13423, NASA has developed an aggressive compliance strategy including the acquisition of 75 percent of new, covered light-duty vehicles as AFVs, and use alternative fuel in these vehicles a majority of the time. NASA will also continue to acquire light duty vehicles with a higher fuel economy, and further reduce petroleum consumption by using biodiesel fuel in most diesel vehicles.

NASA also recognizes that AFV fueling infrastructure is extremely limited in most areas of the country. As such NASA has or intends to develop AFV fueling infrastructure at those NASA Center's where it is not readily commercially available. Additionally, each NASA Center now reports periodically during NASA's internal institutional review on compliance with EPAct and E.O. 13423.

NASA Fleet Compliance for FY 2007

Figure 1 is a graphical depiction of AFV acquisitions by NASA's fleet in FY 2001 through 2007. NASA acquired 363 light-duty vehicles (LDVs) during FY 2007 of which 234 were EPAct covered LDVs. Of the total 363 LDVs acquired, 316 were AFVs. NASA also gained 57 credits for biodiesel fuel use and for acquiring dedicated light, medium, and heavy-duty AFVs, for a total of 390 credits, thereby exceeding EPAct requirements of 75% by 167 percentage points.



Summary of NASA's FY 2007 AFV Acquisitions

A number of vehicles that were leased and purchased by NASA were not "covered" vehicles. Of the total of 363 light-duty vehicles acquired in FY 2007, the following were not counted for compliance:

- 112 were in fleets located outside covered metropolitan statistical areas (MSA's)
- 10 were exempt as law enforcement vehicles
- 6 were exempt due to geographic assignment

NASA's Fleet AFV Acquisitions for FY 2008 and FY 2009

Attachments B and C provide detailed information on planned and projected vehicle acquisitions for NASA in FY 2008 and FY 2009. In FY 2008, NASA is planning to acquire a cumulative total of 373 light-duty vehicles of which 204 will be EPAct covered. NASA is planning of acquiring 354 total AFVs during FY 2008, exceeding the EPAct requirement of 201 AFVs.

Special Projects of the NASA Fleet Related to AFV and Infrastructure Acquisitions

Significant AFV fueling infrastructure projects are currently underway at several NASA Centers. During FY 2007 NASA brought on line one additional E-85 fueling stations. This station will decrease NASA's petroleum consumption and increase our percentage of AFV fuel used in AFV's.

Petroleum Savings

New petroleum savings baselines were established derived from FY 2005 data. By mandate of E.O 13423, NASA is required to decrease petroleum consumption by 2% annually. Since it is difficult, if not impossible, to project petroleum savings for FY 2008 and FY 2009 based upon the estimated AFV acquisitions, improvements in fuel economy, and fleet efficiency, petroleum savings are reported for only FY 2007 based on actual data provided.

Covered Petroleum Consumption in GGE					
	Baseline FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Gasoline		770,847	833,580		
Diesel		301,092	316,588		
B20		99,859	99,207		
Total	1,275,831	1,171,798	1,249,375		
Target		1,250,314	1,224,797	1,199,281	1,173,764
Compliant		Yes	No		

Alternative Fuel Use by NASA in FY 2007

New alternative fuel use baselines were established derived from FY2005 data. By mandate of E.O.13423, NASA is required to increase alternative fuel use by 10% annually.

The majority of vehicles acquired by NASA and other Federal fleets are leased from GSA, and the leasing contract folds in the maintenance and fuel costs for the vehicles. This is accomplished by the use of a GSA credit card that the fleets use to purchase alternative fuel. However, since product code standards are not uniform among suppliers of alternative fuels (e.g., ethanol or E-85), it is difficult for credit vendors to accurately track the purchase of alternative fuels with this credit card. The exception may be natural gas, which is usually purchased at a local utility refueling site, allowing the fleets to contact the utility for an accurate accounting of purchased fuel. Thus, alternative fuel use data is approximated from proportioning GSA data and internal record keeping efforts.

Alternative Fuel Consumption in GGE						
	Baseline	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CNG			15,760	32,047		
LNG			0	0		
LPG			10,661	10,237		
E-85			199,227	231,772		
Electric			0	0		
M-85			0	0		
B100			29,015	29,323		
Hydrogen			0	0		
Total	148,433		254,663	303,379		
Target			163,276	179,603	197,564	217,320
Compliant		Yes		Yes		

*B100 is calculated at 20% of the reported B20 and 100% of the reported B100 fuel used in the Section III Actual Fuel Cost/Consumption by Fuel Type data input screen.

EPAct 2005 Section 701 Waiver Request

National Aeronautics and Space Administration (NASA) requested waivers under EPACT 2005 Section 701 for the following locations:

- Ames Research Center, CA
- Dryden Flight Research Center, CA
- Jet Propulsion Laboratory, CA
- Johnson Space Center, TX
- Marshall Space Flight Center, AL
- NASA Headquarters, DC

A total of 209 alternative fuel vehicles were placed on waivers due to no fuel available at the assigned location of the vehicles.

Waiver Criteria was stipulated as:

- Not available
- Not available within 5 miles or 15 minutes
- Exceeds the price of regular petroleum fuel.

Summary

As detailed in this report and the attachments, NASA exceeded the AFV acquisition requirements of EPAct in FY 2007 and projects to repeat this accomplishment in FYS 2008 and 2009. In addition, NASA fleets were unable to meet the goal to reduce the agency's annual fleet petroleum consumption FY 2007. NASA did meet its goal for

increase of alternative fuel use over FY 2006 by 19% and is 69% ahead over the established FY 2005 baseline.

NASA will continue to implement its strategy for complying with the requirements of Executive Order 13423, which will result in at least a 2% percent reduction in the fleet's annual petroleum consumption and increase alternative fuel use by 10% annually in FY 2008.

Actual National Aeronautics and Space Administration FY 2007 Vehicle Acquisitions					
Actual FY 2007 Light-Duty Vehicle Acquisitions				Total Vehicle Inventory	
	Leased	Purchased	Total		
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions	359	4	363		2,405
Exemptions	Fleet Size	0	0	0	0
	Geographic	6	0	6	75
	Law Enforcement	10	1	11	110
	Non-MSA Operation (fleet)	112	0	112	859
	Non-MSA Operation (vehicles)	0	0	0	(n/a)
EPACT Covered Acquisitions	231	3	234		1,361
Actual FY 2007 AFV Acquisitions				Total Vehicle Inventory	
Vehicle	Leased	Purchased	Total		
Sedan	CNG Bi-Fuel Subcompact	1	0	1	31
Sedan	CNG Dedicated Subcompact	13	0	13	27
Sedan	E-85 Flex-Fuel Subcompact	0	0	0	2
Sedan	CNG Bi-Fuel Compact	6	0	6	25
Sedan	CNG Dedicated Compact	3	0	3	6
Sedan	E-85 Flex-Fuel Compact	33	0	33	292
Sedan	E-85 Flex-Fuel Midsize	73	0	73	131
Sedan	E-85 Flex-Fuel Large	0	0	0	3
Pickup 4x2	CNG Bi-Fuel	5	0	5	80
Pickup 4x2	CNG Dedicated	1	0	1	5
Pickup 4x2	E-85 Flex-Fuel	35	0	35	242
Pickup 4x2	LPG Bi-Fuel	0	0	0	20
Pickup 4x4	CNG Bi-Fuel	0	0	0	16
Pickup 4x4	CNG Dedicated	0	0	0	3
Pickup 4x4	E-85 Flex-Fuel	19	0	19	43
Pickup 4x4	LPG Bi-Fuel	0	0	0	1
SUV 4x2	E-85 Flex-Fuel	4	0	4	39
SUV 4x4	E-85 Flex-Fuel	18	0	18	70
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	34	0	34	308
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	5	0	5	41
Van 4x2 (Passenger)	CNG Bi-Fuel	0	0	0	2
Van 4x2 (Passenger)	E-85 Flex-Fuel	41	0	41	37
Van 4x2 (Cargo)	E-85 Flex-Fuel	24	0	24	23
Van 4x2 (Cargo)	LPG Bi-Fuel	0	0	0	14
Ambulance	LPG Dedicated	0	0	0	1
Pickup MD	CNG Bi-Fuel	0	0	0	13
Van MD (Passenger)	CNG Bi-Fuel	1	0	1	28
Van MD (Passenger)	CNG Dedicated	0	0	0	7
Van MD (Cargo)	CNG Bi-Fuel	0	0	0	31
Van MD (Cargo)	CNG Dedicated	0	0	0	5
Van MD (Cargo)	LPG Bi-Fuel	0	0	0	5
MD 8,501-16,000 GVWR	LPG Bi-Fuel	0	0	0	2
Total Number of AFV Acquisitions	316	0	316		1,553
Zero Emission Vehicle Credits		0	0	0	
Dedicated Light-Duty AFV Credits		17	0	17	
Dedicated Medium-Duty AFV Credits		0	0	0	
Dedicated Heavy-Duty AFV Credits		0	0	0	
Biodiesel Fuel Usage Credits - Actual				57	
Total AFV Acquisitions with Credits		333	0	390	
AFV Percentage of Covered Light-Duty Vehicle Acquisition				167 %	

Planned National Aeronautics and Space Administration FY 2008 Vehicle Acquisitions

Planned FY 2008 Light-Duty Vehicle Acquisitions

		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		366	7	373
Exemptions	Fleet Size	0	0	0
	Geographic	11	0	11
	Law Enforcement	3	1	4
	Non-MSA Operation (fleet)	151	3	154
	Non-MSA Operation (vehicles)	0	0	0
EPACT Covered Acquisitions		201	3	204

Planned FY 2008 AFV Acquisitions

	Vehicle	Leased	Purchased	Total
Sedan	E-85 Flex-Fuel Subcompact	1	0	1
Sedan	CNG Dedicated Compact	3	0	3
Sedan	E-85 Flex-Fuel Compact	77	0	77
Sedan	E-85 Flex-Fuel Midsize	43	0	43
Sedan	CNG Dedicated Large	1	0	1
Sedan	E-85 Flex-Fuel Large	2	1	3
Pickup 4x2	E-85 Flex-Fuel	70	0	70
Pickup 4x2	LPG Bi-Fuel	0	3	3
Pickup 4x4	CNG Bi-Fuel	5	0	5
Pickup 4x4	E-85 Flex-Fuel	2	0	2
SUV 4x2	E-85 Flex-Fuel	6	0	6
SUV 4x4	E-85 Flex-Fuel	16	0	16
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	49	0	49
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	13	0	13
Van 4x2 (Passenger)	E-85 Flex-Fuel	31	0	31
Van 4x2 (Cargo)	E-85 Flex-Fuel	17	0	17
Van 4x2 (Cargo)	LPG Bi-Fuel	2	0	2
Pickup MD	LPG Bi-Fuel	1	0	1
Van MD (Passenger)	E-85 Flex-Fuel	2	0	2
Van MD (Cargo)	CNG Bi-Fuel	3	0	3
Van MD (Cargo)	CNG Dedicated	1	0	1
Van MD (Cargo)	LPG Bi-Fuel	2	0	2
Van MD (Cargo)	LPG Dedicated	0	3	3
Total Number of AFV Acquisitions		347	7	354
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		4	0	4
Dedicated Medium-Duty AFV Credits		2	6	8
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Planned				27
Total AFV Acquisitions with Credits		353	13	393
AFV Percentage of Covered Light-Duty Vehicle Acquisition				193 %

Projected National Aeronautics and Space Administration FY 2009 Vehicle Acquisitions

Projected FY 2009 Light-Duty Vehicle Acquisitions

		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		299	3	302
Exemptions	Fleet Size	0	0	0
	Geographic	13	0	13
	Law Enforcement	4	0	4
	Non-MSA Operation (fleet)	153	0	153
	Non-MSA Operation (vehicles)	0	0	0
EPACT Covered Acquisitions		129	3	132

Projected FY 2009 AFV Acquisitions

	Vehicle	Leased	Purchased	Total
Sedan	E-85 Flex-Fuel Subcompact	2	0	2
Sedan	E-85 Flex-Fuel Compact	89	0	89
Sedan	E-85 Flex-Fuel Midsize	15	0	15
Sedan	CNG Dedicated Large	1	0	1
Pickup 4x2	CNG Bi-Fuel	2	0	2
Pickup 4x2	E-85 Flex-Fuel	50	0	50
Pickup 4x2	LPG Bi-Fuel	3	3	6
Pickup 4x4	E-85 Flex-Fuel	4	0	4
SUV 4x2	E-85 Flex-Fuel	2	0	2
SUV 4x4	E-85 Flex-Fuel	3	0	3
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	51	0	51
Van 4x2 (Passenger)	E-85 Flex-Fuel	37	0	37
Van 4x2 (Cargo)	E-85 Flex-Fuel	10	0	10
Van 4x2 (Cargo)	LPG Bi-Fuel	2	0	2
Pickup MD	CNG Bi-Fuel	5	0	5
Van MD (Passenger)	CNG Bi-Fuel	1	0	1
Van MD (Passenger)	E-85 Flex-Fuel	1	0	1
Van MD (Passenger)	LPG Bi-Fuel	1	2	3
Van MD (Cargo)	CNG Bi-Fuel	16	0	16
Van MD (Cargo)	CNG Dedicated	1	0	1
Total Number of AFV Acquisitions		296	5	301
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		1	0	1
Dedicated Medium-Duty AFV Credits		2	0	2
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				24
Total AFV Acquisitions with Credits		299	5	328
AFV Percentage of Covered Light-Duty Vehicle Acquisition				248%